Beliefs and Expectations of Women Under 50 Years Old Regarding Screening Mammography

A Qualitative Study

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OBJECTIVE: **Because shared decision making has been recommended for screening mammography by women under age 50, we studied women's decision-making process regarding the procedure.**

DESIGN: **Qualitative research design using in-depth semi-structured interviews.**

PATIENTS: **Sixteen white and African-American women aged 38 to 45 receiving care at a large New England medical practice.**

MEASUREMENTS AND MAIN RESULTS: **We identified the following content areas in women's decision-making process: intentions for screening, motivating factors to undergo screening, attitudes toward screening mammography, attitudes toward breast cancer, and preferences for information and shared decision making. In our sample, all women had or intended to have a screening mammogram before age 50. They were motivated by the awareness of the recommendation to begin screening at age 40, knowing others with breast cancer, and a sense of personal responsibility for their health. Participants feared breast cancer and thought the benefits of screening mammography far outweighed its risks. Women's preferences for involvement in decision making varied from wanting full responsibility for screening decisions to deferring to their medical providers. All preferred the primary care provider to be the main source of information, yet the participants stated that their own providers played a limited role in educating them about the risks and benefits of screening and the mammography procedure itself. Most of their information was derived from the media.**

CONCLUSIONS: **The women in this study demonstrated little ambivalence in their desire for mammography screening prior to age 50. They reported minimal communication with their medical providers about the risks and benefits of screening. Better information flow regarding mammography screening is necessary. Given the lack of uncertainty among women's perceptions regarding screening mammography, shared decision making in this area may be difficult to achieve.**

KEY WORDS: **breast cancer; screening; mammography; decision making.**
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Over the last decade, shared decision making between patients and physicians has been advocated, particularly for medical areas in which the benefits are unclear and significant risks exist.[1] Screening mammography for women aged 40 to 49 is one such area.[2] In their 1997 statement, the National Institutes of Health (NIH) Consensus Panel on Screening Mammography for Women aged 40–49 concluded that "given both the importance and the complexity of the issues involved in assessing the evidence, a woman should have access to the best possible relevant information regarding both benefits and risks, presented in an understandable and usable form. Information should be developed for women in their forties regarding potential benefits and risks to be provided to enable each woman to make the most appropriate decision."[3] Recently, the benefits of screening mammography, in general, have come under scrutiny in both the medical[4] and lay press.[5] The role of shared decision making in this area may become even more relevant.

Little is known about how women under 50 decide to get screened, what risks and benefits they consider in their decisions, and what role their medical providers play. Women's preferences for involvement in these screening decisions are also not known. The purpose of this study was to explore the complex aspects of the decision-making process. Our objectives were to learn which factors are involved in women's decisions about screening mammography, what role medical providers play in these decisions, and what women's preferences are for information regarding screening and involvement in making these decisions. Given limited existing information in this area, we used qualitative methods to identify and describe the aspects of the decision-making process in this explorative study.

METHODS

Participants and Recruitment

Women aged 38 to 45 were recruited from a random sample of women enrolled in Harvard Pilgrim Health Care, a large New England HMO, and receiving medical care at 2 of 14 clinical practices of Harvard Vanguard Medical Associates, a multispecialty group practice serving approximately 260,000 members. The health plan policy states that women aged 40 to 49 should discuss screening

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mammography with their medical providers. The procedure is covered if requested by the woman or the provider. Sampling was purposeful, with the explicit goal of enrolling the following: women aged 38 to 40 without prior screening mammograms; women aged 41 to 45 without prior screening mammograms; and women aged 41 to 45 with prior screening mammograms. We also aimed to interview both white and African-American women in each category. This purposeful sampling technique[6] was intended to maximize the diversity of opinions available in interviews and to explore potential differences among the subgroups. We interviewed women until no new content areas or themes emerged in each of the subgroups examined (a technique referred to as "sampling to redundancy" or "thematic saturation").[6] We assumed a priori that we would need to interview at least 3 women in each of the subgroups.

We limited our sample to women aged 38 to 45 on the basis of the assumption that women in this age group are most likely to be actively involved in the decision-making process regarding initiating screening mammography. We excluded women with breast cancer. Written consent was obtained as specified by the Human Studies Committee of Harvard Pilgrim Health Care. Women were invited to participate in the study by mail.

Interviews and Analysis

The qualitative study consisted of in-depth semi-structured interviews conducted by telephone by one investigator (LN). In-depth interviews are particularly useful in gaining insight into participants' beliefs, knowledge, and experiences.[6] Our choice for telephone interviews was based on the assumption that our population of women were either employed or had family responsibilities; therefore, telephone interviews would be most convenient for the participants. Questions were open-ended and probes were used to clarify and to further explore particular responses. All participants were asked the same introductory questions: "As you may know, some women aged 40 to 49 get a screening mammogram while others don't." (For women 38 to 40): "How will you decide whether and when to have a screening mammogram?" (For women over age 40): "You have (have not) had a mammogram . . .. Was that a decision you made? How did you make that decision?"

Respondents were then asked to comment on the factors in their decision whether to get a screening mammogram, with brief probes regarding the role of their medical providers and family and friends, as well as the role of their medical and family history, the media, and cost of the mammogram. They were asked to comment on their preferred sources of information regarding breast cancer screening, type of information desired, and their preferred role in decision making. At the conclusion of the interview, each participant was asked a few demographic questions. Interviews lasted 30 to 45 minutes.

Interviews were audiotaped and transcribed verbatim using an external professional transcription service. We used the triangulation method in the analysis of transcripts.[6] Using this method, 3 investigators initially read and coded 4 transcripts to identify specific content areas and themes. The code structure was reviewed by the investigator team as a group and was then further refined following review of additional transcripts. The investigators then independently coded the transcripts, using the final coding structure; one investigator (LN) coded all 16, while the others (DR-D, SWF) each coded 8. Coding discrepancies were resolved by consensus. We used QSR NUD*IST 4, a software package designed to manage unstructured qualitative data (Qualitative Solutions and Research Pty, Ltd., Melbourne, Victoria, Australia).

RESULTS

Of a total of 101 invitations sent, 16 women were contacted and consented to the interview, 28 were contacted and declined participation, and the remaining 57 were not contacted. Of the 16 women interviewed, 9 were white and 7 were African American (Table 1). Thirteen were aged 41 to 45; 10 had prior screening mammograms. None of the 3 women aged 38 to 40 had been screened. Of those who declined, 15 were African American, 13 white; 3 were aged 38 to 40 (none with prior mammograms), and 13 were aged 41 to 45 (10 of whom had prior mammograms). These differences were not statistically significant. Most women interviewed were highly educated and were of higher socioeconomic status. Three of the 16 had family history of breast cancer; none of the respondents considered herself to be at a higher than average risk for breast cancer.

Table 1. Patient Characteristics

Age, y, *n*	
38–40	3
41–45	13
Race, *n*	
White	9
African American	7
Mean age at menarche, y	12.2
Mean age at first pregnancy, y	29.7
Prior history of pregnancies, *n*	12
Oral contraceptive use, *n*	
Never	5
Past	10
Current	1
Family history of breast cancer, *n*	3
Friends with breast cancer, *n*	9
Education, *n*	
Less than college degree	6
College	10
Household income, *n*	
<$20,000	1
$30,000–70,000	5
>$70,000	10

Table 2. Content Areas and Themes in Women's Decision-making Process Regarding Screening Mammography

Content Areas	Themes
Intentions for screening	Universal intentions for screening Screening intervals not clear
Motivating factors	
Role of age 40	Following recommendations Body changes associated with age Suspicions of screening controversy
Media	Source of recommendation for screening Source of information about breast cancer risk Favorable view of screening mammography
Others with breast cancer	Poignant images of young, deceased women Vulnerability, fear
Medical providers	Source of recommendation for screening Limited source of information Provider characteristics may be a factor
Psychosocial factors	Self-efficacy, personal responsibility Peace of mind Proactive attitude
Other factors	Prior breast symptoms somewhat important Family history generally not important Cost of mammography not important
Attitudes toward screening mammography	Valuable tool for early detection "Better knowing that something is there" Need to reach out to African-American and poor communities Benefits to those 40 and older Younger women may benefit from screening No risks associated with mammography False-positives don't affect future behaviors
Attitudes toward breast cancer	Disease is prevalent Risk factors not always present Fear of disease Screening reduces risk of death
Screening decision-making process	
Adequacy of information	Many were not adequately informed
Preferred source of information	Medical provider
Information desired	Procedure related
Preferred role in decision making	Risks of false-positives and consequences Preferences varied

We identified the following major content areas from the review and coding of the transcripts: intentions for screening, motivating factors, attitudes toward screening mammography, attitudes toward breast cancer, and the screening decision-making process. Table 2 presents the content areas and themes that emerged within each. Figure 1 illustrates the relationship of the content areas within a conceptual framework derived from the interviews.

Intentions for Screening

All women had or planned to get a screening mammogram before age 50. Most believed that screening should begin at age 40. "It's not a bad idea to be screened before 50 ... having a baseline mammogram, just to make sure that everything is fine and to compare future ones against" was a dominant response. One woman expected a "baseline mammogram" to be performed at 35.

Another woman, 41, a health care worker, stated that although she intended to get a mammogram, she was concerned that when women are diagnosed with breast cancer, "their whole worlds fall apart ... everything changes, their relationships with their husbands, their children, and with others."

Intervals for subsequent screening were less clear and inconsistent. Responses included yearly, every 2 years, every 3 years, 3 times per year, and every 5 years.

Motivating Factors

The most commonly cited factors in the women's decisions regarding screening mammography included the perceived role of age 40, (15/16 respondents), exposure

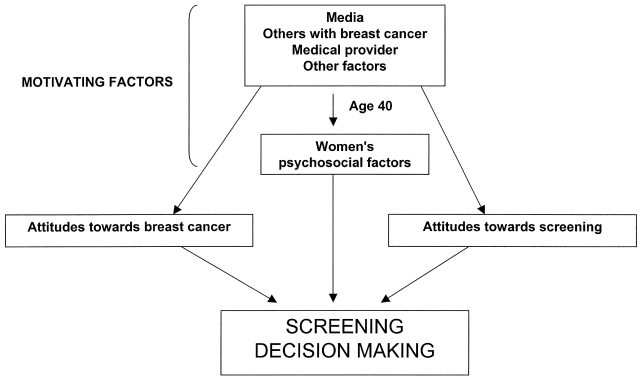

FIGURE 1. Conceptual model for women's decision-making process regarding screening mammography, derived from the qualitative interviews. Several factors motivated women to get screened, including the media, others with breast cancer, medical providers, and other factors, as well as women's own psychosocial composition. The role of age 40 was interwoven within each of these factors. Attitudes toward breast cancer and screening mammography were related to the screening decision. Factors inherent in the decision-making process, such as the adequacy of information received, women's preferences for information, and preferred roles in decision making appeared to have little impact on screening decisions.

to media information about breast cancer and screening mammography (11/16), personal experiences with others who had breast cancer (11/16), and interactions with their physicians (9/16). All women brought up at least 1 psychosocial factor, such as self-efficacy, focus on health and prevention, and attaining "peace of mind."

Role of Age 40. All but one of the respondents stated that their intention to begin screening mammography at age 40 was based on recommendations, obtained mostly via the media or medical providers. In addition, age 40 was seen as a landmark age for making lifestyle changes; African-American women, in particular, often cited this age to be associated with crucial "body changes." There was a sense of certainty that "in your 40s, you should be doing this [getting mammograms], taking more calcium, getting your breast exam, just really concentrating more on yourself."

The participants resisted the notion that there was any scientific uncertainty regarding screening women in this age group. When specifically asked about the controversy, some attributed this to "whoever is funding this is trying to keep the costs down" and were skeptical about the intentions of medicine as a "male-dominated profession." "Unless it affects them personally, they probably don't have a terribly vested interest in advocating for it." One respondent added that "if the experts can't agree, it's worth doing a screening." Waiting until age 50 was perceived as "too long" and would result in missing the cancer in its early stages. "I think it's ridiculous . . . if there is something there . . . in your 40s . . . then it would be too long to wait and then at that point, it would be fatal." Six of 7 white women and only 2 of 5 African-American women with whom this content area was discussed were aware of the screening controversy.

Role of Media. Newspapers, magazines, and television had an important role in motivating most of the participants to get a screening mammogram. Media was an important source of information regarding the benefits of screening mammograms, breast cancer risk, and the recommendation to initiate screening at age 40. This is illustrated by the following quotations.

Benefits of screening: "I mean, like on television, like Rosie O'Donnell—if you send in a receipt, then you get a free T-shirt for having a mammogram. Hearing different commercials and it's been more recently than ever before."

Breast cancer risk: "It was just something that I had been reading and I had watched on television . . . it was like 1 in so many women found with breast cancer. So I decided I wanted to be screened again."

Recommendation to begin screening at age 40: "Because when you're looking at TV, they're always showing the different commercials and stuff and saying when you hit this age you should do this."

Role of Others With Breast Cancer. Most respondents stated that knowing someone with breast cancer was an important factor in their decision to have a screening mammogram. Poignant images of others included women who had lost their hair through treatment with chemotherapy, women with mastectomies and metastases, previously healthy women who "wasted away" and eventually died of their disease and young women with breast cancer. "There was a girl I went to high school with . . . she died . . . with breast cancer. She was only 30."

Some of the deceased were perceived as being responsible for their fates because they did not seek regular medical care. On the contrary, others were "success stories" due to their "positive attitudes" or early breast cancer diagnosis.

Having the experiences with others resulted in an increasing sense of vulnerability to the disease. "It scares you. This was a person who was the epitome of health . . . and she can succumb to this. OK, I'm 40, I better start jumping into this."

Role of Medical Providers. Women perceived a limited role played by their medical providers (mostly physicians) in their decision to get a screening mammogram, although the providers' role was more recognizable for the African-American respondents. Most women over age 40 stated that they initiated a request for screening with their physician, who fulfilled their request. Physicians who initiated the recommendation for screening with their patients did so via the "routine letters they send you." Of the 3 women aged 38 to 40, 1 had already approached her physician regarding screening and 2 had plans to do so.

The women stated that their medical providers offered them limited information regarding the benefits of screening, and breast cancer risk factors, and did not disclose any possible risks of mammography or describe the procedure itself. The following quotations illustrate the stated interactions between the women and their medical providers, and the essential lack of shared decision making regarding screening that occurred.

"I just told her I wanted to have it done, so she said 'OK, it's about that time that you should be having one done any way.'"

"I just said I really felt that I would like to have one and he said OK. He didn't argue with me."

"I didn't discuss it at all. I said 'can I . . . I'd like to get a mammogram.' He said 'fine.' No discussion, no anything."

Respondents attributed the lack of information they received to the fact that they had several different primary care providers, or received most of their care from specialists. Some stated that this was due to their physicians being "quick to get out and quick to get in," and that they might have been better educated by female physicians and nurse practitioners who are "better listeners" and are better equipped to discuss sensitive issues with female patients.

Psychosocial Factors. All women attributed the need for screening to a sense of self-efficacy or "being proactive about my health." For some, it was also a matter of focusing on health and prevention or "doing what I need to do to take care of myself." For others, fear of breast cancer and feeling that mammography would result in "peace of mind" was an important motivating factor for screening. There was a sense that not being screened is an indication of personal neglect and irresponsibility. For example, one woman stated that "if I wasn't even getting the mammogram, that means that I just don't really care what happens to myself."

Other Factors. Prior breast symptoms influenced 4 women to get a mammogram before age 50. Family history was a factor for 3 of the women interviewed. Since the procedure is covered at this setting, cost of mammography was not an issue for any of the women. However, most women stated that they would pay for the procedure themselves were it not covered.

Attitudes Toward Screening Mammography

None of the women questioned the value of screening mammography. Most stated that it is a valuable tool for early detection of breast cancer. Other benefits of screening included "better knowing if something is there," and "being proactive about one's health." Many stated that screening must be further encouraged among the less-educated and poorer women. The African-American participants uniformly voiced a concern that African-American communities are not adequately targeted by screening messages and that too many are not aware of the benefits of mammography and/or have a general hesitancy to interact with the medical system due to an "historical mistrust." Three African-American women acknowledged that mammography is important, but felt that time devoted to their family interferes with having regular screenings.

All women reported that screening mammography benefits those aged 40 and over. When further asked to consider screening women under age 40, 4 respondents were in favor, stating that "it would be better for younger women to adjust to that new lifestyle (by) age 40." A few were concerned about the strength of evidence for screening younger women and the potential impact of "overloading the health care system." Yet, considering the benefits of "catching one (cancer), I suppose it's worth it."

The participants did not consider screening mammography to have any major risks. Upon further probing, women most commonly cited radiation (only white women) and the obtrusive characteristics of the procedure (e.g., pain, discomfort, breast positioning) as the negative aspects of mammography. Others were quite positive about their experiences. One cited a potential for false-negatives, and one for false-positives ("call-backs" or "false alarms").

When asked about false-positives, all white women and only 1 black woman either had had a personal experience with call-backs and/or additional evaluations, or knew others with such experiences. These experiences resulted in anxiety and fear, yet none considered the possibility of false-positives to be a major risk, and would not be deterred from future screenings as a result of this knowledge.

Attitudes Toward Breast Cancer

Although the majority of the respondents did not consider themselves at a higher risk for breast cancer compared to other similar women, most thought that they were at risk. The most commonly cited risk factors were age and family history. Most women thought that breast cancer was highly prevalent, with references such as "one in eight," "one in nine," "there's lots of cancer out there," and the "breast cancer epidemic."

"It just seems so much more pronounced than it was to me, in my own experiences. In the last couple of years it just seems that I can't go anywhere without knowing somebody."

Women perceived that by getting regular screening mammograms and clinical breast examinations and by doing breast self-examinations, they would have a decreased risk of being diagnosed with breast cancer. In fact, some women who did not perform regular self-examinations felt a greater urgency to have mammograms. On the other hand, women who were regular about their own examinations felt more reassured that their screening mammograms would not reveal breast cancer.

Screening Decision-making Process

Adequacy of Information. Most of the women interviewed did not recall any discussion with their physicians regarding the risks of mammography or the procedure itself. All stated that they had already been aware of the benefits of screening, so did not need further information from their providers. Approximately half of the women (both with and without prior screening mammograms) considered themselves informed about the procedure. The rest were either not informed enough, wanted more information, or were not informed. Some who did not consider themselves well-informed considered it their "own fault," because they were not proactive enough in seeking information. One respondent was concerned that the "information is there if you want to get it, but a lot of responsibility falls to the patient," and that the medical community should do more to educate women and remind them of important screening landmarks.

Information Desired and Preferred Sources of Information. Women were asked "What would you wish to have known about screening mammography?" Most wanted to have received more information about the actual procedure (e.g., "It's a cold machine," "doesn't have to be painful," breast positioning and the effects on breast implants.) One woman stated that she "walked in there unaware that my breast was going to be placed on this plate and be pressed about a half an inch flat." Others wanted the recommended frequency of screening, as well as how often call-backs occur and why.

All preferred the physician to be the source of information about breast cancer screening, and most stated that the primary care provider should be the one to bring up the issue, generally when the patient is in her late 30s. They felt that the information should be individualized and should be discussed repeatedly. "A little time should be set aside" for these discussions. Most also stated that the media may be of value, especially for those who "may not feel comfortable with their physicians." Half of the women felt positive about the information obtained via the Internet, but did not rely on this medium themselves.

Preferences for Decision Making. Preferences for involvement in decisions varied. Some women were satisfied with the recommendation of their physicians. "Most of the time I don't need more information . . . most of the time what the doctor says is just good enough." Others wanted more information. "What I would want is a recommendation from a physician with not tons of information, but with enough to sell me. I don't need every specific detail." In general, many felt comfortable leaving screening decisions to their physicians, but would take a greater role in obtaining information and participating in decision making if they were faced with treating breast cancer itself. Others preferred to take the lead. "This is my body . . . so you could basically say to the doctor, well, I respect your opinion, but this is what I want to do, and I want to have it done." This attitude was particularly evident if the respondents sensed that their physician might question screening benefits for women in their 40s. Under those circumstances, they were prepared to challenge their providers.

"If she [the physician] says you should have it, you're 41, you should have it . . . If not, then . . . I'd challenge her with the fact that I've read that you should have one when you're 40 . . . and just see what she has to say and then maybe do some research or ask her what I can read."

DISCUSSION

Our study explored the complex nature of decision making regarding screening mammography among women under age 50 by using a qualitative approach that is robust in capturing patients' beliefs, knowledge, and experiences.[7] We identified several content areas and consistent emerging themes that were interwoven in women's decisions for screening and suggest a conceptual model for women's decision-making process. Our interviews suggest that women's decisions for screening were motivated by the interplay of information and experiences derived from the media, medical providers, others with breast cancer, as well as women's own psychosocial composition. These motivating factors, coupled with women's positive attitudes toward screening mammography and fear of breast cancer, resulted in uniform intentions for screening. Women's preferred roles in the decision-making process varied, and their preferences for information were often unmet. However, neither of these factors appeared to have an impact on their ultimate decisions for screening.

To our knowledge, this is the first study to report on the nature of decision making regarding breast cancer screening specifically among women under age 50. Prior research has addressed patients' preferences for breast cancer treatment,[8] hormone replacement[9,10] and prostate cancer screening.[11,12] A recent study examined beliefs regarding breast cancer risk and screening mammography among women ranging in age from less than 40 to older than 70.[13] That qualitative study, consisting of individual telephone interviews, addressed women's views on breast cancer and screening mammography. While the results added important information regarding women's perceptions, there was little emphasis on the decision-making process, particularly for women under age 50. Decision making regarding breast cancer screening for women under age 50 has been the target of numerous editorials.[14–16] However, we found no published investigative studies.

Our study suggests that the media and the personal experience of knowing others with breast cancer have powerful effects on women's decisions to be screened. With greater media attention to breast cancer, women have become more fearful of disease.[17,18] Participants in our study commonly described images of women they knew

personally, heard of from others, saw on television, or read about in magazines. These images were of women scarred by chemotherapy and mastectomies, and others who succumbed to their disease after metastases. Many such images were of younger women. This is consistent with a recent study finding that breast cancer reporting in popular magazines emphasized early-onset breast cancer.[19] Only 14% of magazine articles provided factual information about age as a breast cancer risk factor. Age was often included in vignettes describing women with breast cancer, but of 172 vignettes, 144 (82%) depicted women who were diagnosed with breast cancer before age 50.

All women had positive attitudes toward screening mammography. In fact, women were skeptical about the controversy in the medical community concerning the benefits of screening women under age 50 and attributed the controversy to the financial concerns of insurance companies[20,21] and "gender politics."[22] As shown previously,[23] all wanted to be screened despite knowledge of the controversy. Perceived risks of screening mammography were minimal. These attitudes are consistent with the favorable atmosphere created by the media with respect to screening mammography for women aged 40 to 49 years.[24]

Despite having either personal experience or awareness of false-positive results and their consequences, none considered these a major risk or deterrent from future screenings, and all indicated that it was "better to be safe than sorry." These views are consistent with prior findings showing that women feel considerable personal responsibility for their breast health[13] and that false-positive results do not decrease subsequent screening.[25] Women did want more information about the likelihood of false-positives and the types of mammography findings that might result in additional evaluation. The effect that such knowledge would have on the decision-making process for screening needs further study.

It is ironic that although our participants considered themselves at an average risk of breast cancer, they nonetheless indicated substantial fear of the disease. Prior studies showed that women under age 50 overestimate their 10-year risk of developing breast cancer up to 6-fold and their 10-year risk of dying of breast cancer up to 20-fold.[26] This is probably a factor in increasing mammography utilization by women 40 to 49 over the last decade.[27]

We found that women's preferences for involvement in decision making regarding screening mammography varied widely, from wanting full responsibility to deferring to their medical providers. This variability was not adequately captured in the NIH consensus statement, but must be taken into account when advising women regarding screening mammography. Our exploratory study suggests that the variability in women's preferences should be studied further.

In our setting, there was little concordance with national recommendations for shared decision making. Screening decisions tended to be made either at the urging of the patient, or less frequently, the recommendation of the provider. If participation in shared decision making between patients and their medical providers continues to be encouraged by the NIH and other organizations, we must better understand the complex preferences and values of both parties. Shared decision making is only useful when patients are uncertain about the most appropriate action, and have a sense of risks and benefits. In the area of screening mammography, there may be little perceived uncertainty. However, whether women who are truly informed will make similar decisions needs to be addressed.

We explored the extent of patient–provider communication and education that occurs during medical encounters with respect to screening mammography. As shown previously,[28] women preferred to receive information regarding breast cancer–related issues from their providers rather than the media or friends and family. In our study, women reported that medical providers provided them with limited information about breast cancer risks and screening mammography. The effectiveness of physicians as communicators of screening information has been questioned.[29] Studies should address the communication process between women and their medical providers, and facilitate effective risk communication and information transfer.

We uncovered possible subtle differences between white and African-American participants in this population. We found that the latter indicated more influence from their physicians, were more concerned about body images associated with aging, and were less aware of false-positives and the controversy regarding screening under age 50. We were surprised to find no major differences in attitudes toward screening mammography between women in their late 30s and those in their early 40s, nor between those previously screened and those not yet screened. Whether these findings are true needs to be determined in future quantitative studies.

Our study has limitations. Our sampling was purposive, with the specific intention of capturing the opinions of several groups of women. Respondents were not notably different from nonrespondents with respect to the characteristics of interest (i.e., age, race, and prior screening mammography use). The high rate of screening among our sample is consistent with that in our setting overall. In a random sample of 250 women under 50 years old at Harvard Pilgrim Health Care, over 90% received mammography by age 45. However, because of the high screening rates and the socioeconomic and educational status of our population, our results may not be generalizable to other settings. It would be valuable to explore the issue of decision making regarding screening mammography among women in other geographic locations, demographic groups, and/or payor systems. Furthermore, we purposely selected women at various stages of the screening process; some were planning their first mammogram, while others had already been screened and relied on recall of the

discussions they had had with their medical providers and their decision-making process. Finally, some of the striking findings in this qualitative study may not hold up in larger quantitative analyses.

Qualitative research designs are not meant to provide quantitative estimates of survey results; rather they explore dimensions that quantitative studies are unable to uncover and/or issues appropriate for quantitative assessment. Our study suggests that women expect to be screened beginning at age 40; this concept appears to be embedded in the community belief system and in medical practice. It appears that questioning the value of screening in this age group may increase women's sense of mistrust in the health care system. Yet, despite their determined intentions for screening, women still want more information from their medical providers. As the effectiveness of screening mammography continues to be debated, it is important that providers engage women in dialog regarding their understanding of their risk of breast cancer, the risks and benefits of screening, as well as the procedure itself.

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